

What is claimed is:

1. An isolated nucleic acid molecule comprising a *SULT1A3* nucleic acid sequence, wherein said *SULT1A3* nucleic acid sequence comprises a nucleotide sequence variant and nucleotides flanking said sequence variant.
2. The isolated nucleic acid molecule of claim 1, wherein said *SULT1A3* nucleic acid sequence encodes a sulfotransferase polypeptide, said sulfotransferase polypeptide comprising an amino acid sequence variant.
3. The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence variant is within an intron sequence.
4. The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence variant comprises a guanine at nucleotide 105 of the coding sequence of said sulfotransferase nucleic acid sequence.
5. The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence variant comprises a nucleotide insertion within intron 3.
6. The isolated nucleic acid molecule of claim 5, wherein said nucleotide insertion comprises the nucleotide sequence of 5'-CAGT-3'.
7. The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence variant comprises an adenine at nucleotide 69 of intron 4.
8. The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence variant comprises an adenine at nucleotide 69 of intron 6.

9. The isolated nucleic acid molecule of claim 1, wherein said nucleotide sequence variant comprises a thymine at nucleotide 113 of intron 7.

10. An isolated nucleic acid molecule comprising a *SULT1A1* nucleic acid sequence, wherein said *SULT1A1* nucleic acid sequence comprises a nucleotide sequence variant and nucleotides flanking said sequence variant, and wherein said nucleotide sequence variant is selected from the group consisting of a cytosine at nucleotide 138 of intron 1A, a thymine at nucleotide 34 of intron 5, an adenine at nucleotide 57 of the coding sequence, an adenine at nucleotide 110 of the coding sequence, and an adenine at nucleotide 645 of the coding sequence.

11. The isolated nucleic acid molecule of claim 10, wherein said *SULT1A1* nucleic acid sequence encodes a sulfotransferase polypeptide having a glutamine at amino acid residue 37.

12. An isolated nucleic acid molecule comprising a *SULT1A2* nucleic acid sequence, wherein said *SULT1A2* nucleic acid sequence comprises a nucleotide sequence variant and nucleotides flanking said sequence variant, and wherein said nucleotide sequence variant is selected from the group consisting of a thymine at nucleotide 550 of the coding sequence, a thymine at nucleotide 78 of intron 5, and a thymine at nucleotide 9 of intron 7.

13. The isolated nucleic acid molecule of claim 12, wherein said *SULT1A2* nucleic acid sequence encodes a sulfotransferase polypeptide having a cysteine at amino acid residue 184.

14. A method for determining a risk estimate of a hormone dependent disease in a subject, said method comprising detecting the presence or absence of a

sulfotransferase nucleotide sequence variant in said patient, and determining said risk estimate based, at least in part, on presence or absence of said variant in said subject.

15. The method of claim 14, wherein said hormone dependent disease is breast cancer.

16. The method of claim 14, wherein said hormone dependent disease is prostate cancer.

17. The method of claim 14, wherein said hormone dependent disease is ovarian cancer.

18. A method for determining sulfonator status in a subject, said method comprising detecting the presence or absence of a sulfotransferase allozyme in said subject, and determining said sulfonator status based, at least in part, on presence or absence of said sulfotransferase allozyme.

19. An antibody having specific binding affinity for a sulfotransferase polypeptide, said polypeptide comprising an amino acid sequence variant.

20. A nucleic acid construct, said construct comprising a *SULT1A3* nucleic acid sequence operably linked to a regulatory nucleic acid sequence, said *SULT1A3* nucleic acid sequence comprising a nucleotide sequence variant and nucleotides flanking said variant.

21. An isolated nucleic acid molecule comprising a sulfotransferase nucleic acid sequence, wherein said sequence encodes a sulfotransferase allozyme

selected from the group consisting of *SULT1A1**4, *SULT1A2**4, *SULT1A2**5, and *SULT1A2**6.

22. An isolated nucleic acid molecule comprising a sulfotransferase nucleic acid sequence, wherein said sulfotransferase nucleic acid sequence is a sulfotransferase allele selected from the group consisting of *SULT1A1*, *SULT1A2*, *SULT1A1**3A, *SULT1A1**3B, and *SULT1A1**4.

23. The isolated nucleic acid molecule of claim 22, wherein said *SULT1A1* allele is selected from the group consisting of *SULT1A1**1A, *SULT1A1**1B, *SULT1A1**1C, *SULT1A1**1D, *SULT1A1**1E, *SULT1A1**1F, *SULT1A1**1G, *SULT1A1**1H, *SULT1A1**1I, *SULT1A1**1J and *SULT1A1**1K.

24. The isolated nucleic acid molecule of claim 22, wherein said *SULT1A2* allele is selected from the group consisting of *SULT1A2**1A, *SULT1A2**1B, *SULT1A2**1C, *SULT1A2**D, *SULT1A2**2A, *SULT1A2**2B, *SULT1A2**2C, *SULT1A2**3A, *SULT1A2**3B, *SULT1A2**3C, *SULT1A2**4, *SULT1A2**5 and *SULT1A2**6.

25. An article of manufacture comprising a substrate and an array of different sulfotransferase nucleic acid molecules immobilized on said substrate, wherein each of said different sulfotransferase nucleic acid molecules comprises a different sulfotransferase nucleotide sequence variant and nucleotides flanking said sequence variant.

26. The article of manufacture of claim 25, wherein said array comprises at least two nucleotide sequence variants of *SULT1A1*.

27. The article of manufacture of claim 26, wherein said array comprises the following *SULT1A1* variants: a cytosine at nucleotide 138 of intron 1A, a thymine at nucleotide 34 of intron 5, an adenine at nucleotide 35 of intron 5, a guanine at nucleotide 11 of intron 6, a cytosine at nucleotide 14 of intron 6, a thymine at nucleotide 17 of intron 6, a thymine at nucleotide 35 of intron 6, an adenine at nucleotide 45 of intron 6, a guanine at nucleotide 64 of intron 6, a cytosine at nucleotide 488 of intron 6, an adenine at nucleotide 509 of intron 6, a thymine at nucleotide 16 of intron 7, a cytosine at nucleotide 69 of intron 7, a guanine at nucleotide 120 of intron 7, an adenine at nucleotide 57 of the coding sequence, an adenine at nucleotide 110 of the coding sequence, a cytosine at nucleotide 153 of the coding sequence, a guanine at nucleotide 162 of the coding sequence, a cytosine at nucleotide 600 of the coding sequence, an adenine at nucleotide 638 of the coding sequence, an adenine at nucleotide 645 of the coding sequence, a guanine at nucleotide 667 of the coding sequence, a guanine at nucleotide 902 of the 3' untranslated region, and a thymine at nucleotide 973 of the 3' untranslated region.

28. The article of manufacture of claim 25, wherein said array comprises at least two nucleotide sequence variants of *SULT1A2*.

29. The article of manufacture of claim 28, wherein said array comprises the following *SULT1A2* variants: a cytosine at nucleotide 20 of the coding sequence, a cytosine at nucleotide 24 of the coding sequence, a thymine at nucleotide 56 of the coding sequence, a thymine at nucleotide 550 of the coding sequence, a cytosine at nucleotide 704 of the coding sequence, a cytosine at nucleotide 895 of the 3' untranslated region, a guanine at nucleotide 902 of the 3' untranslated region, a cytosine at nucleotide 34 of intron 2, a thymine at nucleotide 78 of intron 5, and a thymine at nucleotide 9 of intron 7.

30. The article of manufacture of claim 25, wherein said array comprises at least two nucleotide sequence variants of *SULT1A3*.

31. The article of manufacture of claim 28, wherein said array comprises the following *SULT1A3* variants: a guanine at nucleotide 105 of the coding sequence, an insertion of the nucleotide sequence 5'-CAGT-3' within intron 3, an adenine at nucleotide 69 of intron 4, an adenine at nucleotide 69 of intron 6, and a thymine at nucleotide 113 of intron 7.